

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A male die, comprising:

a plurality of first forging punches, each of which is operable to form a first recess on a metal plate, the first forging punches arranged at a fixed pitch to form a punch row in a first direction; and

a plurality of second forging punches, each of which is operable to form a second recess on the metal plate, the second forging punches arranged adjacently to first forging punches located at both ends of the punch row,

wherein the first recess is adapted to have a first function, and the second recess is adapted to have a ~~dummy-second~~ function ~~in connection with~~ different from the first function;

wherein the metal plate is adapted to be a member incorporated in a liquid ejection head;

and

wherein the first recess is adapted to be a first part of the member which is used to eject liquid from the liquid ejection head.
2. (original): The male die as set forth in claim 1, wherein a plurality of second forging punches are provided at each end of the punch row.
3. (original): The male die as set forth in claim 1, wherein a depth dimension of a first gap defined between adjacent ones of the first forging punches and the second forging

punches is smaller than a depth dimension of a second gap defined between adjacent ones of the first forging punches.

4. (currently amended): ~~The male die as set forth in claim 3,~~ A male die,
comprising:
a plurality of first forging punches, each of which is operable to form a first recess on a
metal plate, the first forging punches arranged at a fixed pitch to form a punch row in a first
direction; and
a plurality of second forging punches, each of which is operable to form a second recess
on the metal plate, the second forging punches arranged adjacently to first forging punches
located at both ends of the punch row,
wherein the first recess is adapted to have a first function, and the second recess is
adapted to have a second function different from the first function;
wherein a depth dimension of a first gap defined between adjacent ones of the first
forging punches and the second forging punches is smaller than a depth dimension of a second
gap defined between adjacent ones of the first forging punches; and
wherein a depth dimension of a third gap defined between adjacent ones of the second
forging punches is smaller than the depth dimension of the first gap.

5. (original): The male die as set forth in claim 4, wherein the depth dimension of
the third gap defined between adjacent ones of the second forging punches which are closer to
the end of the punch row is smaller than the depth dimension of the third gap defined between
adjacent ones of the second forging punches which are further from the end of the punch row.

6. (original): The male die as set forth in claim 1, wherein each of the first forging punches and each of the second forging punches are elongated in a second direction which is perpendicular to the first direction.

7. (original): The male die as set forth in claim 1, wherein a width dimension of each of the first forging punches is smaller than a width dimension of each of the second forging punches.

8. (original): The male die as set forth in claim 3, wherein a width dimension of each of the first forging punches is identical with a width dimension of each of the second forging punches.

9. (original): The male die as set forth in claim 1, wherein the second forging punches are extended closer to the metal plate to be processed than the first forging punches.

10. (currently amended): The male die as set forth in claim 1, further comprising a plurality of third forging punches, each of which is operable to form a third recess on the metal plate and arranged between one of the first forging punches and one of the second forging punches, wherein:

a width dimension of each of the first forging punches is identical with a width dimension of each of the third forging punches; and

the third recess is adapted to have ~~the~~ a dummy function.

11. (original): The male die as set forth in claim 1, wherein the fixed pitch is 0.3 mm or less.

12. (canceled).

13. (withdrawn): A liquid ejection head, comprising:
a first metallic plate member, formed with:
a plurality of first recesses, arranged at a fixed pitch to form a recess row; and
a plurality of second recesses, arranged adjacently to first recesses located at both ends of the recess row; and
a second metallic plate member, joined to the first metallic plate member, and formed with a plurality of nozzle orifices each communicated with one of the first recesses and operable to eject liquid therefrom by pressure fluctuation generated in liquid contained in the one of the first recesses,
wherein a shape of each of the first recesses is different from a shape of each of the second recesses.
14. (withdrawn): The liquid ejection head as set forth in claim 13, wherein a plurality of second recesses are provided at each end of the recess row.
15. (withdrawn): The liquid ejection head as set forth in claim 14, wherein adjacent ones of the second recesses are partly communicated with each other.
16. (withdrawn): The liquid ejection head as set forth in claim 13, wherein a width dimension of each of the first recesses is smaller than a width dimension of each of the second recesses.
17. (withdrawn): The liquid ejection head as set forth in claim 15, wherein a width dimension of each of the first recesses is identical with a width dimension of each of the second recesses.

18. (withdrawn): The liquid ejection head as set forth in claim 13, wherein a depth dimension of each of the first recesses is smaller than a depth dimension of each of the second recesses.

19. (withdrawn): The liquid ejection head as set forth in claim 13, wherein:
the first metallic plate member is formed with a plurality of third recesses each arranged between one of the first recesses and one of the second recesses;
a width dimension of each of the first recesses is identical with a width dimension of each of the third recesses; and
the third recesses are not so configured as to eject liquid from the nozzle orifices.

20. (withdrawn): The liquid ejection head as set forth in claim 13, wherein the fixed pitch is 0.3 mm or less.

21. (withdrawn): A method of manufacturing a liquid ejection head, comprising steps of:

providing a first metallic plate member;
providing the male die comprising a plurality of first forging punches arranged at a fixed pitch to form a punch row, and a plurality of second forging punches arranged adjacently to first forging punches located at both ends of the punch row;
forming simultaneously a plurality of first recesses with the first forging punches and a plurality of second recesses with the second forging punches;
providing a second metallic plate member formed with a plurality of nozzle orifices; and

joining the first metallic plate member and the second metallic member such that each of the nozzle orifices is communicated with one of the first recesses,

wherein a shape of each of the first recesses is different from a shape of each of the second recesses.

22. (currently amended): A forging apparatus, ~~comprising the~~ having a male die, as ~~set forth in claim 1-~~ said forging apparatus comprising:

a plurality of first forging punches, each of which is operable to form a first recess on a metal plate, the first forging punches arranged at a fixed pitch to form a punch row in a first direction; and

a plurality of second forging punches, each of which is operable to form a second recess on the metal plate, the second forging punches arranged adjacently to first forging punches located at both ends of the punch row;

wherein the metal plate is adapted to be a member incorporated in a liquid ejection head;

wherein the first recess is adapted to be a first part of the member which is used to eject liquid from the liquid ejection head;

wherein the second recess is adapted to be a second part of the member which is not used to eject liquid; and

wherein the first recess is adapted to have a first function, and the second recess is adapted to have a dummy function in connection with the first function.